

IN THE CLAIMS:

Please cancel Claims 2, 8 to 19, 21, 27 to 38 and 40 to 61 without prejudice or disclaimer of subject matter and amend the claims as shown below. The claims, as pending in the subject application, read as follows:

1. (Currently Amended) An image processing apparatus comprising:

a bit connection component that connects a cumulative value of decimals of preceding image data to input image data as lower bits of the input image data;

a correction component that corrects the connected input image data with a quantization error;

a latch component that latches a decimal portion of the corrected input image data;

a quantization component that quantizes an integral portion of the corrected input image data;

a calculation component that calculates [[a]] the quantization error, which is generated by quantization by said quantization component, to provide the calculated quantization error to said correction component;

a buffer that stores the calculated quantization error; and

an error diffusion component that diffuses the quantization error on the basis of at least a quantization error of a first pixel, which is stored in said buffer[[.]] and a quantization error of a second pixel, which is calculated by said calculation component;
and-

~~a reduction component that reduces the impact of an arithmetic error by said error diffusion component on a next input image data.~~

2. (Canceled)

3. (Currently Amended) The apparatus according to claim 1 ~~[[2]]~~, further comprising a stop component that stops propagating the correction value in a case in which it is inappropriate to propagate the correction value to next and subsequent pixels.

4. (Currently Amended) The apparatus according to claim ~~[[2]]~~ 1, further comprising:

~~a holding component that holds the decimal portion of the correction value;~~
and

a clear component that clears the decimal portion held in said ~~holding latch~~ component in a case in which it is inappropriate to connect the decimal portion of the correction value, which is ~~held latched~~ in said ~~holding latching~~ component, to the lower bit side of the next input image data.

5. (Original) The apparatus according to claim 4, further comprising a processing limit component that limits clearing by said clear component when a scanning direction of the input image is reversed.

6. (Original) The apparatus according to claim 3, wherein the case in which it is inappropriate to propagate the correction value to next and subsequent pixels includes at least one of a case in which a pixel of interest is a start pixel of a line, a case in which the pixel of interest has a value equal to a lower limit level of the input image, and a case in which the pixel of interest has a value equal to an upper limit level of the input image.

7. (Original) The apparatus according to claim 1, further comprising a numerical value limit component that limits the quantization error calculated by said calculation component to a numerical value within a predetermined range.

8. to 19. (Canceled)

20. (Currently Amended) An image processing method for image processing comprising the steps of:
connecting a cumulative value of decimals of preceding image data to input image data as lower bits of the input image data;
correcting the connected input image data with a quantization error;
latching a decimal portion of the corrected input image data;
quantizing an integral portion of the corrected input image data;
calculating [[a]] the quantization error, which is generated in said quantization step, to provide the calculated quantization error to the correcting step;
storing the calculated quantization error in a buffer; and

diffusing the quantization error on the basis of at least a quantization error of a first pixel, which is stored in said buffer[[,]] ~~and a calculated quantization error of a second pixel; and~~

~~reducing the impact of an arithmetic error due to said error diffusion step on next input image data.~~

21. (Canceled)

22. (Currently Amended) The method according to claim 20 [[21]], further comprising a step ~~for~~ of stopping propagation of the correction value in a case in which it is inappropriate to propagate the correction value to next and subsequent pixels.

23. (Currently Amended) The method according to claim [[21]] 20, further comprising the step[[s]] of:

~~holding the decimal portion of the correction value; and~~

clearing the decimal portion held in said ~~holding~~ latching step in a case in which it is inappropriate to connect the decimal portion of the correction value, which is held latched in said ~~holding~~ latching step, to the lower bit side of the next input image data.

24. (Currently Amended) The method according to claim 23, further comprising a step ~~for~~ of limiting the clear process of said clear step when a scanning direction of the input image is reversed.

25. (Original) The method according to claim 22, wherein the case in which it is inappropriate to propagate the correction value to next and subsequent pixels includes at least one of a case in which a pixel of interest is a start pixel of a line, a case in which the pixel of interest has a value equal to a lower limit level of the input image, and a case in which the pixel of interest has a value equal to an upper limit level of the input image.

26. (Currently Amended) The method according to claim 20, further comprising a step ~~for~~ of limiting the quantization error calculated in said calculation step to a numerical value within a predetermined range.

27. to 38. (Canceled)

39. (Currently Amended) A computer-readable storage medium on which is stored a computer-executable program of instructions executable by a computer to for an image processing method, the method comprising by performing the steps of:

connecting a cumulative value of decimals of preceding image data to input image data as lower bits of the input image data;

correcting the connected input image data with a quantization error;

latching a decimal portion of the corrected input image data;

quantizing an integral portion of the corrected input image data;

calculating [[a]] the quantization error generated in said quantization step to provide the calculated quantization error to said step of correcting;

storing the calculated quantization error in a buffer;

diffusing the quantization error on the basis of at least a quantization error of a first pixel, which is stored in said buffer[[],] ~~and a calculated quantization error of a second pixel;~~ and

reducing the impact of an arithmetic error by said error diffusion step on next input image data.

40. to 61. (Canceled)